

## **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Machine Id **5082** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 10W30 (--- QTS)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

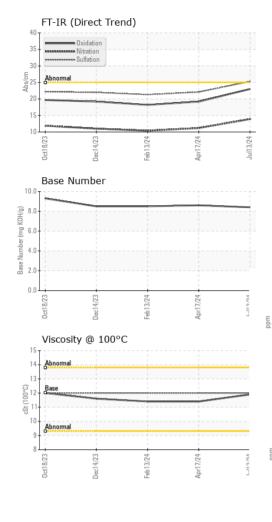
#### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0131503	PCA0123915	PCA0118826
Sample Date		Client Info		13 Jul 2024	17 Apr 2024	13 Feb 2024
Machine Age	mls	Client Info		119109	107027	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	34	24	22
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	3	3	3
Lead	ppm	ASTM D5185m	>40	6	3	<1
Copper	ppm	ASTM D5185m	>330	1	2	1
Tin	ppm	ASTM D5185m	>15	0	2	1
Vanadium	ppm	ASTM D5185m		0	<1	<1
0						
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	<1 history1	0 history2
	ppm ppm		limit/base			-
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 3	history1 2	history2 2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 3 0	history1 2 0	history2 2 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 3 0 64	history1 2 0 68	history2 2 0 63
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	ourrent 3 0 64 <1	history1 2 0 68 <1	history2 2 0 63 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 3 0 64 <1 1023	history1 2 0 68 <1 934	history2 2 0 63 <1 956
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current           3           0           64           <1           1023           1169	history1 2 0 68 <1 934 1072	history2 2 0 63 <1 956 1099
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995	Current 3 0 64 <1 1023 1169 1058	history1 2 0 68 <1 934 1072 989	history2 2 0 63 <1 956 1099 1043
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 0 950 1050 995 1180	current           3           0           64           <1           1023           1169           1058           1273	history1 2 0 68 <1 934 1072 989 1252	history2           2           0           63           <1           956           1099           1043           1207
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	Current 3 0 64 <1 1023 1169 1058 1273 3354	history1 2 0 68 <1 934 1072 989 1252 3095	history2 2 0 63 <1 956 1099 1043 1207 2891
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base >25	current           3           0           64           <1           1023           1169           1058           1273           3354           current           5           5           5	history1         2         0         68         <1         934         1072         989         1252         3095         history1	history2         2         0         63         <1         956         1099         1043         1207         2891         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base >25	current           3           0           64           <1           1023           1169           1058           1273           3354           current           5	history1         2         0         68         <1         934         1072         989         1252         3095         history1         5	history2           2           0           63           <1           956           1099           1043           1207           2891           history2           0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base >25	Current         3         0         64         <1         1023         1169         1058         1273         3354         current         5         5         0         current	history1         2         0         68         <1         934         1072         989         1252         3095         history1         5         0         2         history1	history2         2         0         63         <1         956         1099         1043         1207         2891         history2         0         2         0         2         0         2         0         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	3         0         64         <1         1023         1169         1058         1273         3354         current         5         5         0         0	history1         2         0         68         <1         934         1072         989         1252         3095         history1         5         0         2         history1         1.2	history2           2           0           63           <1           956           1099           1043           1207           2891           history2           0           2           0           2           0           1207           1207           2891           history2           0           1           1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 -20 <b>imit/base</b>	Current         3         0         64         <1         1023         1169         1058         1273         3354         current         5         5         0         current	history1         2         0         68         <1         934         1072         989         1252         3095         history1         5         0         2         history1	history2         2         0         63         <1         956         1099         1043         1207         2891         history2         0         2         0         2         0         2         0         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >3	current         3         0         64         <1         1023         1169         1058         1273         3354         current         5         5         0         current         1.8	history1         2         0         68         <1         934         1072         989         1252         3095         history1         5         0         2         history1         1.2	history2           2           0           63           <1           956           1099           1043           1207           2891           history2           0           2           0           2           0           1207           1207           2891           history2           0           1           1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current         3         0         64         <1         1023         1169         1058         1273         3354         current         5         5         0         current         1.8         13.9	history1         2         0         68         <1         934         1072         989         1252         3095         history1         5         0         2         history1         1.2         1.2         11.2	history2           2           0           63           <1           956           1099           1043           1207           2891           history2           0           2           0           2           0           1           10           1           10.43
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D7844           *ASTM D7624           *ASTM D7415           method	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20 >3 >20	3         0         64         <1         1023         1169         1058         1273         3354         current         5         5         0         current         1.8         13.9         25.3	history1         2         0         68         <1         934         1072         989         1252         3095         history1         5         0         2         history1         1.2         11.2         22.1	history2         2         0         63         <1         956         1099         1043         1207         2891         history2         0         2         0         2         0         1207         2891         history2         1         10.4         10.4         21.3



# **OIL ANALYSIS REPORT**



	method				history2
scalar	*Visual	NONE	NONE	NONE	NONE
scalar	*Visual	NONE	NONE	NONE	NONE
scalar	*Visual	NONE	NONE	NONE	NONE
			NONE		NONE
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Feb	Apr	Jul	Deci	Feb	Apr
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13/24	7/24		8/23	3/24	Apri 7/24 -
Febi	Apri	Jul	Deci	Feb	Apr
	scalar	scalar *Visual scalar	scalar *Visual NONE scalar *Visual NONE scalar *Visual NONE scalar *Visual NONE scalar *Visual NORML scalar *Visual NORML scalar *Visual NORML scalar *Visual >0.2 scalar *Visual >0.2 scalar *Visual >0.2 scalar *Visual 0 <b>TIES method limit/base</b> cSt ASTM D445 12.00	scalar *Visual NONE NONE scalar *Visual NONE NONE scalar *Visual NONE NONE scalar *Visual NONE NONE scalar *Visual NORML NORML scalar *Visual NORML NORML scalar *Visual >0.2 NEG scalar *Visual >0.2 Silicon (ppm) scalar *Visual *Scalar *Scalar *Visual *Scalar *Scalar *Scalar *Visual *Scalar *Sc	scalar *Visual NONE NONE NONE NONE scalar *Visual NONE NONE NONE NONE scalar *Visual NONE NONE NONE scalar *Visual NONE NONE NONE scalar *Visual NORML NORML NORML NORML scalar *Visual >0.2 NEG NEG scalar *Visual >0.2 Scalar *Visual >0.2 NEG NEG Scalar *Visual >0.2 NEG NEG Scalar *Visual >0.2 Scalar *Visual >0.2 NEG NEG Scalar *Visual >0.2 Scalar *Visual >0.2 NEG NEG Scalar *Visual >0.2 Scalar *Visual >0.2 NEG NEG NEG Scalar *Visual >0.2 Scalar *Visual >0.2 Scalar *Visual >0.2 NEG

To discuss this sample report, co \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

mdd

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (201)528-7053

Report Id: MILRUT [WUSCAR] 06238897 (Generated: 07/17/2024 16:33:19) Rev: 1

Certificate L2367

Laboratory Sample No. Lab Number **Unique Number Test Package** 

Contact/Location: MIKE LONGETTE - MILRUT